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ABSTRACT

Concern for the quality of undergraduate education and its graduates has been a recurring topic of conversation in the literature and the workplace. Student involvement has been identified as a major factor that contributes to improvement in student learning. Recent emphasis on the need for excellence in higher education has increased the use of assessment as a tool for achieving and measuring the quality of student learning. Quality circles have been used in the workplace as a means of increasing quality and productivity; however, their use in undergraduate classroom has been limited. The purpose of this paper is to report the use of the quality circle technique (student management team) in an undergraduate course. This exploratory pilot study describes the effects of a student management team (four volunteers) on student learning and student satisfaction in a Medical/Surgical nursing course for approximately 40 students. End of semester student evaluations indicated increased student ownership of the course, student satisfaction with both the course and their mastery of course content, and a positive perception of faculty concern with their learning. (Contains 13 references.) (Author/SLD)

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Quality Circles: A Classroom Assessment Tool for Improving Teaching and Learning

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Abstract

Concern for the quality of undergraduate education and its graduates has been a recurring topic of conversation in the literature and the workplace. Student involvement has been identified as a major factor that contributes to improvement in student learning. Recent emphasis on the need for excellence in higher education has increased the use of assessment as a tool for achieving and measuring the quality of student learning. Quality circles have been used in the workplace as a means of increasing quality and productivity; however, their use in undergraduate classrooms has been limited. The purpose of this presentation is to report the use of the quality circle technique (student management team) in an undergraduate course. This exploratory pilot study describes the effects of a student management team on student learning and student satisfaction in a Medical/Surgical nursing course. End of semester student evaluations indicated increased student ownership of the course, student satisfaction with both the course and their mastery of course content, and a positive perception of faculty concern with their learning.

Quality Circles:A Classroom Assessment Tool for Improving Teaching and Learning

Concern for the quality of undergraduate education and its graduates has been a recurring topic of conversation in business and industry, newspaper editorials, and state and national governing bodies. In studying the problem of quality in American colleges and universities several years ago, members of a national commission (National Institute of Education 1984), determined that the most important condition of excellence was student involvement. The more students are involved, the more intensely they engage in their education to make learning happen. This emphasis upon excellence in higher education led naturally to the emergence of the assessment movement. Although originally the focus was upon institutional improvement, Angelo and Cross (1993) were instrumental in enlarging the focus to include assessment of student learning in the classroom. As a technique of classroom assessment, quality circles involve groups of students meeting regularly to identify, analyze, solve, and implement solutions to course related problems (Nuhfer 1992). The purpose of this presentation is to report the use of the quality circle technique as a means of classroom assessment to improve teaching and learning.

Review of the Literature

The concept of quality control (Q-C) circles was developed in Japan in 1949 for the express purpose of having workers share with management the responsibility for locating and solving problems of coordination and productivity (Ouchi 1981). W.E. Deming, the acknowledged father of the total quality management (TQM) movement, combined the concept of participatory management with skills needed to make sound judgments. This combination of skills training with participatory management techniques had the objective of motivating workers who have genuine input into, and control of, their working environment to achieve excellence (Ouchi 1981).

Quality circles (the word "control" was dropped because of the connotation) have been modified and applied to a variety of organizations in the United States in the last fifteen years (Angelo & Cross 1993; O'Neil, Harwood, & Osif 1993). Dumaine (1994) asserted that quality circles, with their emphasis on solving problems of productivity and quality, provided incremental gains in productivity for business and industry.

Interest in quality circles spread to higher education in the 1980's, with some initial application in the classroom (Heller & Santolla 1986; Hirschfield 1984; Kogut 1984); the major focus, however, was upon improvement of institutional functioning . Several authors reported on the use of quality circles as an effective method of institutional assessment (O'Neil, Harwood & Osif 1993;

Simmons & Kahn 1990; Yudof & Busch-Vishniac 1996). As Angelo & Cross (1993) developed the concept of classroom assessment to include increased participation and ownership of students in the learning process, the use of quality circles in the classroom has reemerged. This assessment technique shares with its ancestors a focus on quality and productivity. In addition, use of the technique in both business and education involves sharing of power between management and workers or between faculty and students. Quality circles are designed to improve the productivity of both faculty and students through continuously focusing the attention of both on the quality of students' learning.

Application in the Classroom

Following a review of the literature, the authors were impressed with the potential for quality circles as a technique of classroom assessment that sought to understand and improve student learning (Angelo 1995). They hypothesized that the increased communication and student participation provided by this technique would also result in increased satisfaction with their learning experience. Therefore, the decision was made to conduct an exploratory pilot study to determine the effects of the use of quality circles in an undergraduate classroom situation on student learning and student satisfaction.

Planning

Following the decision to use a quality circle in the classroom, several other decisions remained. The first was how large a group to use. The class was

a third semester medical/surgical nursing course of approximately 40 students. It was determined that four students would be both representative of the class and a manageable number. The second was what to call the group. The decision was made to call the group a student management team (SMT) as proposed by Nuhfer (1992) as a more descriptive term for the use of the quality circle technique in an academic setting. It was then necessary to decide how often the team should meet. A weekly meeting appeared to be the best choice, as it allowed the team to deal with class feedback in a timely manner. The next decision concerned the manner in which the faculty would interact with the team. It was decided that faculty would meet with the SMT every other week, but that they would be available between scheduled meetings if the team members needed to communicate with them. Finally, the decision of how to select team members was made. Students would be encouraged to volunteer to serve on the team, and team members would then be randomly selected from the group of volunteers.

Implementation

Early in the semester both faculty participated in presenting the SMT concept to the class. First, an overview of the concept was given, followed by an explanation of how the faculty envisioned a SMT functioning in this particular class. They shared their vision of an improved climate of learning in which students would actively participate. Adequate time was allowed to discuss how a SMT would function and to answer all questions. Then students who wished to

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volunteer were asked to place their names in a container provided by the faculty. After all students had an opportunity to volunteer, four names were drawn and announced to the class. Both the team members and the class at large appeared interested in the SMT concept and were eager to begin.

The first meeting of the SMT was held the following week immediately after the class period. All team members and both faculty were present. This first meeting was used to discuss ways in which the team could function and to provide certain operating guidelines. The students were enthusiastic and full of ideas. They developed a form for their classmates which included their phone numbers and which asked for feedback. They requested a few minutes at the beginning of each class to conduct SMT "business" before the faculty arrived. The faculty agreed to this request.

The faculty used this first meeting to provide the following ground rules for the team: 1) students will not be held responsible for any negative feelings on the part of their classmates that they are asked to communicate to the faculty (no killing of the messenger); 2) issues will be limited to concerns with this course; and 3) no personal attacks on faculty or other students will be allowed. Both faculty and students agreed to the ground rules. The students expressed relief that they could communicate negative feelings from the class without fear of retribution from the faculty!

The team worked smoothly from the start. At the bi-weekly meetings with the faculty, students brought issues and concerns from their classmates as well as positive comments. All issues were discussed by the entire team. Some could be resolved at once, with students reporting back to their classmates at their next class session. Others were referred to the faculty for further discussion; these decisions were also reported back to the class. Other issues could not be resolved, but the reasons for nonresolution were also explained to the class.

Some examples of the types of issues brought to the team included:

1. Problems with the printing of the syllabus. (homework assignments on the back of class outlines, absence of page numbers, unclear headings)
2. Anxiety about having enough class time for presentation of course content.
3. Resentment of the amount of time in class allowed for the "whining" of classmates.
4. Frustration with schedule changes (test dates, snow day).
5. Questions about exams (content, length).
6. Questions about class absences.

Some of the issues and concerns could be resolved very quickly. Faculty took class time to describe the parameters for each test and volunteered to be available for review sessions prior to tests if requested by students. The faculty and students reached consensus on a make-up class for the missed snow day.

The issue of anxiety about adequate time for mastery of course content was addressed throughout the semester, as faculty highlighted crucial concepts and emphasized student responsibility for important outside reading assignments and ongoing review of material. The issue of student whining was a shared responsibility between faculty and students, with the faculty agreeing to be sensitive about allowing it to waste time in the classroom, and the student leaders agreeing to discuss the issue with the entire class to seek a solution. The concern about printing of course materials could not be resolved, although faculty agreed to review the homework assignments, which had been printed on the reverse side of class outlines, and return them before class began.

Evaluation

At the end of the semester, students were asked to complete a written evaluation identifying their positive and negative perceptions of both the student management team technique and its impact on the course. The benefits identified by the students included an increased sense of ownership of the course and a positive perception of faculty concern with their learning. They expressed a high level of satisfaction with both the course and with their mastery of course content. The only negative comments expressed by four students stated that they received inadequate feedback from the student management team.

From a faculty perspective, the use of the SMT technique was a positive and rewarding experience. The SMT provided a vehicle for students to air

concerns related to the course and to receive timely feedback. Through regularly scheduled meetings to discuss concerns and possible solutions, faculty gained more complete and detailed information that allowed them to respond to problems as the course progressed. This was a great improvement over the usual end-of-course evaluation that does not allow for an ongoing response. As students participated more in the management of the course, the faculty found ownership of the course shifting; what began as their (the faculty's) course ended as our (the students' and faculty's) course. The use of the SMT also provided opportunities for members of the team to develop leadership skills as they functioned as both advocates and liaisons for the class. Faculty benefited by having comprehensive feedback from students throughout the semester upon which to base changes to improve teaching. They gained the advantage of access to several pairs of ears and eyes and approaches to problem solving (Angelo & Cross 1993).

Did the quality of learning improve? This was one of the few semesters in which this course was taught where every student passed the course. But just as important perhaps was the improved quality of the learning community. The use of quality circles provided a means of focusing on teacher-student interactions and achieving the desired learning outcomes. Based upon the success of this experience, the faculty plan to incorporate the use of student management teams in future courses.

Suggestions

Although both students and faculty expressed satisfaction with the SMT experience, some suggestions for improvement of the use of this method in the classroom can be made:

1. A longer and more thorough orientation to the process may be helpful. Although we used the first meeting to discuss the concept of SMT with the students, we felt that this period of orientation could have been more in-depth. The following semester we provided handouts of articles explaining the quality circle concept and discussed these with the team.
2. The faculty may find it helpful to be more visible in the process. We stayed in the background and allowed the SMT to do all of the communication with the class. In the future, we would probably refer more to the team during class and encourage students to use the team to communicate more of their concerns.
3. The use of student management teams does take extra time and preparation. Also, students are not likely to use the technique unless the process is explained adequately and a user-friendly method for communicating among students is developed. Therefore, faculty who wish to use this technique must be willing to invest the time and energy required if a positive outcome is to be achieved.

4. Faculty need to be aware that some students who volunteer for a leadership team have not yet developed the group-work skills needed for this technique. When this problem is identified, the faculty may need to provide additional training time.
5. For this technique to be effective, faculty must be flexible and open to student perceptions, observations, and recommendations. In other words, they must be willing to give up some power (Angelo & Cross, 1993). Although this may be threatening to some faculty, the improvement in the quality of student learning far outweighs the personal risk.

Conclusion

While quality circles have long been used in business and academic administration settings, their use in classroom assessment has been limited. This presentation has demonstrated the positive learning outcomes that can be achieved when quality circles are used to facilitate the learning experience of students in a classroom setting. These learning outcomes include improved student mastery of course content and increased student satisfaction with the course. The authors strongly encourage other faculty to explore the use of this classroom assessment technique as a means of enriching the classroom experience of their students and improving learning outcomes.

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